

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* NOBUYOSHI YAGI, MINORU MIYATAKE, TOSHIYUKI UMEHARA,  
YOSHIMASA SAKATA, and KIICHI SHIMODAIRA

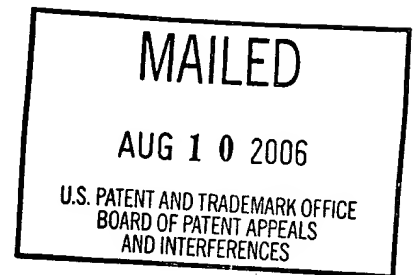
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Appeal No. 2006-1872  
Application No. 09/769,376

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HEARD: JULY 12, 2006

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Before GARRIS, KRATZ, and TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

***DECISION ON APPEAL***

This appeal involves claims 1, and 3-6, the only claims pending in this application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

### *INTRODUCTION*

The subject matter of the claims relates to a resin substrate for optical use and suitable as a liquid-crystal cell substrate (specification, p. 1, ¶ 1). According to the specification, in a liquid-crystal cell substrate, surface smoothness is a concern. This is because high surface roughness tends to result in alignment defects, such as Williams domains, which considerably influence display quality including contrast and visibility (specification, p. 1, ¶ 2). Appellants' claims are directed to structures that have a surface roughness  $R_a$  of 0.8 nm or lower. Claim 1 is illustrative:

1. A liquid-crystal cell substrate which comprises a multilayer structure having a surface roughness,  $R_a$ , of 0.8 nm or lower on at least one side and having an average thickness of from 100 to 800 $\mu$ m, wherein the multilayer structure comprises a layer of a cured epoxy resin as a base layer.

The Examiner relies on the following prior art references to show unpatentability:

Kon et al. (Kon)	6,136,444	Oct. 24, 2000 (filed: Feb. 1, 1996)
Beeson et al. (Beeson)	6,261,664	Jul. 17, 2001 (filed : Oct. 4, 1999)
Sugawa et al. (Sugawa)	6,500,518	Dec. 31, 2002 (filed: May 6, 1999)

The rejections maintained by the Examiner are as follows:<sup>1</sup>

1. Claims 1, 4, and 5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of Sugawa.
2. Claims 1 and 3-6 are rejected under 35 U.S.C. § 102(e) as anticipated by Sugawa.
3. Claims 1 and 3-5 are rejected under 35 U.S.C. § 102(e) as anticipated by Kon.

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<sup>1</sup> The Examiner withdrew a rejection under 35 U.S.C. § 112, ¶ 2 (Answer, § 6 on page 2).

We sustain the rejections that rely upon Sugawa as evidence of unpatentability. We, however, do not sustain the rejection over Kon. Our reasons follow.

### ***OPINION***

#### ***The Obviousness-type Double Patenting Rejection over Sugawa***

The double patenting doctrine generally prevents a patentee from receiving two patents for the same invention. *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1372, 77 USPQ2d 1321, 1323 (Fed. Cir. 2005). The proscription against double patenting takes two forms: statutory and non-statutory. *Id.* Statutory, or “same invention” double patenting is based on the language in § 101 of the Patent Act mandating “a patent” for any new and useful invention. 35 U.S.C. § 101 (2000). *Id.* at 1372-73, at 1323. Non-statutory, or “obviousness-type,” double patenting is a judicially created doctrine adopted to prevent claims in separate applications or patents that do not recite the “same” invention, but nonetheless claim inventions so alike that granting both exclusive rights would effectively extend the life of patent protection. *Id.* The question is whether the differences in subject matter between the rejected claims and the patented claim are such that there is no patentable distinction between them. *Eli Lilly and Co. v. Barr Labs., Inc.*, 251 F.3d 955, 968, 58 USPQ2d 1865, 1878 (Fed. Cir. 2001). If the rejected claims are anticipated by, or merely define an obvious variation of, the invention claimed in the Sugawa patent, there is no patentable distinction. *Id.*; *see also In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970).

We agree with the Examiner that the differences between the rejected claims and patented claim 1 are such that there is no patentable distinction between them.

As a first matter, there is a dispute between the Examiner and Appellants with regard to the extent to which the written description of the specification of Sugawa can be relied upon when establishing non-statutory or obviousness-type double patenting. The Examiner consults the written description of Sugawa to determine the meaning of “smooth surface” in Sugawa’s claim 1. Appellants argue that “[i]t is improper for the Examiner to look outside of the claims by attempting to define the ‘smooth surface’ language of Claim 1 of Sugawa ‘518 in the specification when the specification itself does not explicitly set out a definition for the term.” (Brief, p. 12).

We find no reversible error with regard to the Examiner’s reliance on the specification. As stated in *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970):

In considering the question, the patent disclosure may not be used as prior art. *In re Boylan, supra*; *In re Aldrich*, 398 F.2d 855, 55 CCPA 1431 (1968). This does not mean that the disclosure may not be used at all. As pointed out above, in certain instances it may be used as a dictionary to learn the meaning of terms in a claim. It may also be used as required to answer the second analysis question above[: Does any claim in the application define merely an obvious variation of an invention disclosed and claimed in the patent?] We recognize that it is most difficult, if not meaningless, to try to say what is or is not an obvious variation of a claim. A claim is a group of words defining only the boundary of the patent monopoly. It may not describe any physical thing and indeed may encompass physical things not yet dreamed of. How can it be obvious or not obvious to modify a legal boundary? The disclosure, however, sets forth at least one tangible embodiment within the claim, and it is less difficult and more meaningful to judge whether that thing has been modified in an obvious manner. It must be noted that this use of the disclosure is not in contravention of the cases forbidding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. § 103, since only the disclosure of the invention claimed in the patent may be examined.

Not only can the written description of the patent specification be relied upon to determine the meaning of claim terms, it can also be used to determine what embodiments of the patented

invention are encompassed within the patented claim for comparison to the embodiments encompassed by the rejected claim.

Looking to the specification to determine the scope of rejected claim 1 and the embodiments encompassed therein, we conclude as did the Examiner, that the claim encompasses embodiments also encompassed by patented claim 1 of Sugawa and that these claims are not patentably distinct. This is because both claims are directed to epoxy optical sheets useful for liquid-crystal cell substrates (Sugawa, col. 7, ll. 1-3). Both of the multilayer sheets are made by a process of forming a strippable or peelable layer on a support having a smooth surface, spreading an epoxy resin coating solution onto the resin layer, and hardening (Compare specification, p. 3, ¶ 1 with Sugawa, col. 1, l. 64 to col. 2, l. 6). The similarities in the starting materials and processing provide a reasonable basis to conclude that the claimed “smooth surface” of Sugawa’s claim 1 encompasses a surface with a surface roughness,  $R_a$ , of 0.8 nm or lower as claimed. This is so particularly because Sugawa describes using a support with the same surface roughness ( $R_a$  of 0.02  $\mu\text{m}$  or less) as the support Appellants describe (compare Sugawa, col. 3, ll. 38-41 with specification, p. 6, ll. 21-25). It appears that the formation of the free surface obtained by the coating method results in the surface smoothness,  $R_a$ , of 0.8 nm or less (specification, p. 3, ll. 6-20). Under these circumstances, it is appropriate to conclude that the differences are so insubstantial that there is no patentable distinction.

Appellants point out that the measurement of surface roughness of  $R_a$  of 0.02  $\mu\text{m}$  or less disclosed in Sugawa is directed to the surface roughness of the support and not to the surface roughness of the epoxy optical sheet (Brief, p. 12). We agree. However, we do not agree that the difference in magnitude between this measurement of the support roughness and the claimed

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roughness and the single cited measurement of the support in Sugawa “refutes the Examiner’s assertion of inherency” as argued by Appellants (Brief, p. 13). The Examiner’s assertion of inherency is based upon the use of the same epoxy resin in the same manner. It is the similarities in the starting material and the processing that supports the reasonableness of the conclusion of inherency including the similarity in the  $R_a$  value for the support in the two processes. Based on the evidence, it is reasonable to conclude that the free surface, i.e., the surface opposite the support, would have an  $R_a$  in the claimed range. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990); *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433-34 (CCPA 1977).

In the Reply Brief, Appellants dispute the Examiner’s finding that the epoxy resin is used in the same manner as Appellants’ epoxy resin (Reply Brief, p. 11). According to Appellants, they describe particular characteristics “such as, for example, leveling agents (page 17, first full paragraph), viscosity (page 18, first full paragraph), heating conditions and temperature fluctuations during curing (page 18, second full paragraph and page 21, second and third full paragraphs) that are different or omitted from Sugawa ‘518’s disclosure such that Sugawa ‘518 would not necessarily produce a surface roughness as believed by the Examiner.” (Reply Brief, p. 11). At the hearing, Appellants’ representative conceded that there is no material difference between the leveling agents described at page 17 of the specification and the leveling agents described in Sugawa (Sugawa, col. 6, ll. 11-18). That leaves the differences between the viscosity teachings, heating conditions and temperature fluctuations. But Appellants’ specification does not disclose the viscosity ranges, heating conditions, and temperature fluctuation ranges as necessary to obtain a surface roughness,  $R_a$ , of 0.8 nm or less, those

parameters are discussed as preferences. Furthermore, according to the specification, “the heating conditions should not be construed as being limited to these” (specification, p. 21, ll. 17-19). Given the nature of these disclosures it is reasonable to conclude that the “surface smoothness” of Sugawa’s claim 1 is inherently within the  $R_a$  range of 0.8 nm or less as claimed given the similarities in the starting materials and processing. Because the materials and processing are identical or substantially similar, it is eminently fair and acceptable to shift the burden to Appellants and require them to prove that there is a patentable distinction between the “surface smoothness” of Sugawa’s claim 1 and the claimed roughness,  $R_a$ , of 0.8nm or less. *Best*, 562 F.2d at 1254, 195 USPQ at 433. This is particularly true, where, as here, the reference represents work done in the same corporation. Appellants are in a better position to obtain the prior art products and make the required comparisons than is the PTO. *Id.* at 1254, at 433-34. Appellants have not provided such evidence.

We conclude that the Examiner established that claim 1, 4, and 5 are not patentably distinct from claim 1 of Sugawa. Appellants have not convinced us otherwise.

#### ***Anticipation by Sugawa***

For the reasons stated above, we find that the Examiner has established anticipation by Sugawa.

Appellants additionally argue that Sugawa cannot realistically achieve a surface roughness value of  $R_a = 0.8$  nm or lower because Sugawa discloses a thickness accuracy of  $\pm 40$   $\mu\text{m}$  or lower (Sugawa, col. 7, ll. 45-51) as compared to a thickness precision of  $\pm 7$   $\mu\text{m}$  or lower disclosed in Appellants’ specification (p. 28, ll. 7-9)(Brief, p. 16). According to Appellants,

thickness precision is relative to  $R_a$ : The larger the thickness precision, the larger the resultant  $R_a$  value and *vice versa*. Appellants are comparing disclosures of thickness in Example 1 in Sugawa to Example 1 of the specification.

We are not persuaded by this argument. First, there is no evidence that the thickness accuracy disclosed in Sugawa is comparable to the thickness value disclosed in Appellants' Example 1. In Appellants' Example 1, the 7  $\mu\text{m}$  value is disclosed as a standard deviation of thickness. Appellants provide no convincing evidence or explanation indicating that this standard deviation is a "thickness precision" measurement much less equivalent to the "thickness accuracy" measurement of Sugawa. Second, even if the thickness values can be compared, they do not necessarily reflect a difference in  $R_a$  value. This is because the orientation of the support appears to affect the thickness accuracy. In discussing the thickness accuracy, Sugawa discloses that it is preferable to maintain the surface of the support "as horizontally as possible" (Sugawa, col. 3, ll. 41-45). Differences in horizontal orientation will affect the thickness accuracy. Therefore, a difference in thickness accuracy between the two Examples does not establish that the  $R_a$  of Sugawa is outside the claimed range.

The Examiner has established a reasonable basis for anticipation based upon inherency with respect to the subject matter of claims 1 and 3-6 that has not been sufficiently rebutted by Appellants.

#### ***Anticipation by Kon***

With regard to the rejection of claims 1 and 3-5 as anticipated by Kon, we agree with the Appellants that Kon fails to describe the claimed liquid-crystal cell substrate. The portion of



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Kon relied upon, i.e., column 18, lines 35-43, merely describes a surface roughness range for the air side of a polycarbonate substrate. The polycarbonate substrate is not a multilayer structure with a layer of cured epoxy resin as a base layer as required by the claim. Nor is the surface roughness,  $R_a$ , of 0.8 nm or lower present on “at least one side” of the required multilayer structure. While it is the air side of the polycarbonate sheet which has the surface roughness value of 1 nm or less, that “air side” is covered by other layers in later coating operations. Therefore, the “air side” is not a “side” of the multilayer structure as claimed.

We find that the Examiner has failed to establish anticipation by Kon with respect to the subject matter of claims 1 and 3-5.

***Obviousness over Kon in view of Beeson***

With respect to the rejection of claim 6 over Kon in view of Beeson, this rejection fails for the same reasons as the rejection for anticipation by Kon. No new reasoning with respect to Kon is advanced and Beeson does not cure the defects discussed above with respect to the anticipation rejection over Kon.

We conclude that the Examiner has failed to establish a prima facie case of obviousness with respect to the subject matter of claim 6.

***CONCLUSION***


In summary, we sustain the rejection of claims 1, 4, and 5 based upon obviousness-type double patenting over claim 1 of Sugawa. We further sustain the rejection of claims 1 and 3-6 under 35 U.S.C. § 102(e) based upon anticipation by Sugawa. We do not sustain the rejection of

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claims 1 and 3-5 under 35 U.S.C. § 102(e) based upon anticipation by Kon. Nor do we sustain the rejection of claim 6 under 35 U.S.C. § 103(a) based upon obviousness over Kon in view of Beeson. Because all of the claims remain rejected, the decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

**AFFIRMED**

  
BRADLEY R. GARRIS  
Administrative Patent Judge

  
PETER F. KRATZ  
Administrative Patent Judge

  
CATHERINE TIMM  
Administrative Patent Judge

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